Name:

## at1110paper_practice_test (v5)

1. Solve the equation with factoring by grouping.

$$18x^2 + 24x - 15x - 20 = 0$$

$$(6x - 5)(3x + 4) = 0$$

$$x = \frac{5}{6} \qquad x = \frac{-4}{3}$$

2. Expand the following expression into standard form.

$$(3x + 5)^2$$

$$9x^2 + 15x + 15x + 25$$

$$9x^2 + 30x + 25$$

3. Expand the following expression into standard form.

$$(5x + 9)(5x - 9)$$

$$25x^2 - 45x + 45x - 81$$

$$25x^2 - 81$$

4. Expand the following expression into standard form.

$$(8x + 9)(4x - 7)$$

$$32x^2 - 56x + 36x - 63$$

$$32x^2 - 20x - 63$$

5. Factor the expression.

$$x^2 + 13x + 40$$

$$(x + 8)(x + 5)$$

6. Solve the equation.

$$(9x + 2)(3x + 7) \;=\; 0$$

$$x = \frac{-2}{9} \qquad x = \frac{-7}{3}$$

7. Factor the expression.

$$36x^2 - 49$$

$$(6x + 7)(6x - 7)$$

8. Solve the equation.

$$9x^2 - 63x + 36 \;=\; 2x^2 - 3x + 4$$

$$7x^2 - 60x + 32 = 0$$
$$(7x - 4)(x - 8) = 0$$
$$x = \frac{4}{7} \qquad x = 8$$